3 Tourism adaptive complex networked systems

Rodolfo Baggio

When reading this chapter, you will engage with these key concepts:

- Tourism destinations are recognised as complex adaptive systems, characterised by dynamic interactions and nonlinear dynamics.
- Network models provide visual and mathematical tools for understanding interactions within tourism systems.
- Applying network science methods to tourism has led to a better understanding of the system structure and behaviour of destination governance.
- Common structural features among destination networks support governance.
- Integrating digital and physical elements enhances system efficiency, while simulations aid in understanding information flow and opinion synchronisation.
- Higher-order network analysis and integration of artificial intelligence hold promise for deeper insights into tourism systems.
- Future research should refine methods, explore internal structures, and understand temporal evolution in destination networks.
- Future research efforts can enhance tools for destination management, providing more efficient and effective strategies for stakeholders.

Introduction

The study of complex networked systems has had a huge development in the last years offering relevant insights into the structure and the behaviour of many natural and artificial systems. The application of these methods in the tourism domain, after a slow start, resulted in a number of studies that have helped a better understanding of many properties of tourism systems and how dynamic processes perform. After discussing the most relevant investigations done so far and the recent advances in network science, a number of possible future research paths are explored with their implications for more efficient and effective destination governance.